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EXAMINER

HSU, JONI

ART UNIT	PAPER NUMBER
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2628

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/807,297	Applicant(s) HATTORI, HIROSHI	
	Examiner Joni Hsu	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 8-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments, see page 2, filed December 28, 2006, with respect to the rejection(s) of claim(s) 1-8, 14, 15, and 20-22 under 35 U.S.C. 102(b) and claims 9-13 and 16-19 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Naoi (US006687401B2), Miwa (US005923790A), and Otani (US006930808B2).
3. Applicant argues that the Takahashi reference (US006359695B1) does not teach every limitation of independent Claims 1 and 20 (page 2).

In reply, the Examiner agrees. However, new grounds of rejection are made in view of Naoi, Miwa, and Otani.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-7 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US006359695B1) in view of Naoi (US006687401B2), further in view of Miwa (US005923790A), further in view of Otani (US006930808B2).

7. With regard to Claim 1, Takahashi discloses an image processing device for creating, based on a drawing command (*instructions about the second image data*, Col. 3, lines 10-21), drawing data to be used for forming an image while scanning in a main scanning direction (Col. 8, lines 38-40), the image processing device comprising storage means prestored with a predetermined first reference value (*designation means may designate the size of the second image data*, Col. 3, lines 6-10; Col. 4, lines 20-28; Col. 12, lines 10-18); command receiving means for receiving drawing commands in succession (*receives the instruction about the second image data*, Col. 3, lines 10-21); graphic determination means for determining whether or not a graphic pattern to be drawn by each drawing command has a predetermined shape (*logotype*, Col. 12, lines 7-9); graphic width determination means for determining, when the graphic

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determination means determines that the graphic pattern has the predetermined shape, whether or not a width of the graphic pattern in a main scanning direction is less than or equal to the first reference value (*size designation may be performed in such a manner that 512 pixels or less can be designated in the direction X*, Col. 12, lines 10-18; *determine whether or not the address exceeds the size of the basic image*, Col. 23, lines 45-60); and determining whether or not the graphic patterns indicated by the plurality of drawing commands constitute a pattern (*if one basic image 300A and a succeeding basic image 300b are deviated from each other in terms of the pattern continuity*, Col. 12, lines 51-65), in which the corresponding graphic patterns are arranged in the main scanning direction (*basic image 300 is printed out in such a manner that it is periodically repeated in the direction X*, Col. 22, lines 1-6); command conversion means for converting, when the graphic pattern determination means determines that the plurality of graphic patterns indicated by the plurality of drawing commands constitute the array pattern, the plurality of drawing commands into one or more secondary drawing command to draw one or more secondary graphic pattern, the one or more secondary graphic pattern being defined by combining the plurality of graphic patterns together in the main scanning direction; and drawing data generation means for generating drawing data to be used for forming the one or more secondary graphic pattern while scanning in the main scanning direction (*if one basic image 300A and a succeeding basic image 300b are deviated from each other in terms of the pattern continuity, then a movement for each block is performed so that the pattern continuity is kept as shown in FIG. 47B*, Col. 12, lines 56-65; *basic image 300 is printed out in such a manner that the basic image 300 is rotated*, Col. 22, lines 14-24).

However, Takahashi does not teach that the graphic pattern determination means holds the drawing command when the graphic width determination means determines that the width of the corresponding graphic pattern is less than or equal to the first reference value. However, Naoi discloses that a process performing rule storage unit 1e store the procedure indicating the next process to be performed based on the result of the recognizing process entered in the intermediate process result table (Col. 11, lines 50-53). The recognizing process determines a graphic pattern (Col. 11, lines 8-21), and therefore is a graphic pattern determination means. The processes include drawing commands (*process condition storage unit 42 store definitions such as the layout structure of the form and read character information, for example, the position type and size of a character box, type of characters, number of characters*, Col. 16, lines 40-44). Therefore, the graphic pattern determination means holds the drawing command when the graphic pattern determination means determines a certain graphic pattern. Since Takahashi discloses graphic width determination means for determining that the width of the corresponding graphic pattern is less than or equal to the first reference value (Col. 12, lines 10-18; Col. 23, lines 45-60), by combining Takahashi with Naoi's teaching of graphic pattern determination means for holding the drawing command when the graphic pattern determination means determines a certain graphic pattern, the device of Takahashi can be modified to include graphic pattern determination means for holding the drawing command when the width of the corresponding graphic pattern is less than or equal to the first reference value.

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify the device of Takahashi to include that the graphic pattern determination means holds the drawing command when the graphic width determination means determines that

the width of the corresponding graphic pattern is less than or equal to the first reference value as suggested by Naoi because Naoi suggests that in order to perform the correct command based on the result of the graphic pattern determination means, the correct command needs to be stored in a memory (Col. 11, lines 50-53).

However, Takahashi and Naoi do not teach determining whether or not the graphic patterns indicated by the plurality of drawing commands constitute an array pattern, in which the corresponding graphic patterns are arranged consecutively in the main scanning direction. However, Miwa discloses determining whether or not the graphic patterns indicated by the plurality of drawing command constitute an array pattern, in which the corresponding graphic patterns are arranged consecutively in the main scanning direction (*detects the direction of the character array in the document (to be read out), whether the vertical direction (sub scan direction) of the document lies in each line or the lines are successively arrayed in the horizontal direction (main scan direction)*), Col. 4, lines 8-18).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify the devices of Takahashi and Naoi to include determining whether or not the graphic patterns indicated by the plurality of drawing commands constitute an array pattern, in which the corresponding graphic patterns are arranged consecutively in the main scanning direction as suggested by Miwa because Miwa suggests the advantage of suggests the advantage of determining whether the graphic patterns are arranged consecutively in the main scanning direction or the auxiliary scanning direction so that the scanning will be performed in the correct direction in order for a higher accuracy to be secured (Col. 10, lines 40-45; Col. 4, lines 8-18).

However, Takahashi, Naoi, and Miwa do not teach drawing data generation means for generating, based on the one or more secondary drawing command, drawing data to be used for forming the one or more secondary graphic pattern when scanning in the main scanning direction. However, Otani discloses converting image data of the main scan direction to that of the sub-scan direction (Col. 5, lines 29-36). Therefore, when scanning in the main scanning direction, the image data is converted to a secondary graphic pattern. A secondary drawing command is used to form the secondary graphic pattern (*switches operation for writing the plurality of colors of image data in blocks that belong to corresponding rows, and operation for writing the plurality of colors of image data in the blocks that belong to corresponding columns*, Col. 1, lines 57-64). Therefore, Otani discloses drawing data generation means for generating, based on the one or more secondary drawing command, drawing data to be used for forming the one or more secondary graphic pattern when scanning in the main scanning direction.

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify the devices of Takahashi, Naoi, and Miwa to include drawing data generation means for generating, based on the one or more secondary drawing command, drawing data to be used for forming the one or more secondary graphic pattern when scanning in the main scanning direction as suggested by Otani because Otani suggests that drawing commands are needed in order to output an image (Col. 1, lines 57-64). It would be obvious to convert the graphic pattern to a secondary graphic pattern scanned in a different direction for the same reasons given above.

8. With regard to Claim 2, Takahashi discloses that when the graphic pattern determination means determines that the plurality of graphic patterns constitute the pattern (Col. 12, lines 51-65), the direction is converted to an auxiliary direction to draw the one or more secondary graphic pattern, and drawing a corresponding secondary graphic pattern by repeatedly drawing, in an auxiliary scanning direction, a predetermined number of scan line that extends in the main scanning direction, the auxiliary scanning direction extending substantially perpendicularly to the main scanning direction (Col. 22, lines 14-24).

However, Takahashi does not teach that the command conversion means converts the plurality of drawing commands into the one or more secondary drawing command, each secondary drawing command being for drawing a corresponding secondary graphic pattern. However, Otani discloses converting image data of the main scan direction to that of the sub-scan direction (Col. 5, lines 29-36). Therefore, when scanning in the main scanning direction, the image data is converted to a secondary graphic pattern. A secondary drawing command is used to form the secondary graphic pattern (*switches operation for writing the plurality of colors of image data in blocks that belong to corresponding rows, and operation for writing the plurality of colors of image data in the blocks that belong to corresponding columns*, Col. 1, lines 57-64). Therefore, Otani discloses that the command conversion means converts the plurality of drawing commands into the one or more secondary drawing command, each secondary drawing command being for drawing a corresponding secondary graphic pattern. This would be obvious for the same reasons given in the rejection for Claim 1.

However, Takahashi and Otani do not teach that the pattern being determined constitutes an array pattern. However, Miwa discloses determining whether or not the graphic patterns

constitute the array pattern (*detects the direction of the character array in the document (to be read out), whether the vertical direction (sub scan direction) of the document lies in each line or the lines are successively arrayed in the horizontal direction (main scan direction)*), Col. 4, lines 8-18). This would be obvious for the same reasons given in the rejection for Claim 1.

9. With regard to Claim 3, Takahashi discloses a memory for storing the drawing data, wherein the drawing data generation means generates the drawing data and transfers the generated drawing data between the drawing data generation means and the memory in a transfer condition, the first reference value being previously determined dependently on the transfer condition (*designation means may designate the size of the second image data*, Col. 3, lines 6-10, 48-67; *receiving image data supplied from the external equipment and storing the image data; designating an output format of the stored image data; and repeatedly outputting the stored image data in accordance with the output format*, Col. 4, lines 20-28; Col. 12, lines 10-18).

10. With regard to Claim 4, Takahashi discloses that the predetermined shape is a rectangle, as shown in Figure 24 (Col. 22, lines 1-24).

11. With regard to Claim 5, Takahashi discloses image forming means for forming an image on a recording medium based on the drawing data (*means for subjecting the first image data to an image process prior to transmitting the first image data to the recording head*, Col. 3, lines 22-30) while scanning in the main scanning direction (Col. 8, lines 38-40).

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12. With regard to Claim 6, Takahashi discloses that the storage means is also prestored with a predetermined second reference value (512 pixels) that is greater than the first reference value (1 pixel), and wherein each secondary graphic pattern has a width in the main scanning direction that is larger than the first reference value and that is smaller than or equal to the second reference value (*size designation may be performed in such a manner that 512 pixels or less can be designated in the direction X, one pixel is a unit*, Col. 12, lines 10-22; Col. 23, lines 45-60).

13. With regard to Claim 7, Takahashi discloses a memory for storing the drawing data, wherein the drawing data generation means generates the drawing data and transfers the generated drawing data between the drawing data generation means and the memory in a transfer condition, the first reference value and the second reference value being previously determined dependently on the transfer condition (Col. 3, lines 6-10, 48-67; Col. 4, lines 20-28; Col. 12, lines 10-22).

14. With regard to Claims 20 and 21, these claims are similar in scope to Claims 1 and 3 respectively, and therefore are rejected under the same rationale.

15. With regard to Claim 22, Takahashi discloses that the storage portion is also prestored with a predetermined second reference value that is greater than the first reference value, and wherein each secondary graphic pattern has a width in the main scanning direction that is larger than the first reference value and that is smaller than or equal to the second reference value, wherein the second reference value is previously determined dependently on the transfer

condition (Col. 3, lines 6-10, 48-67; Col. 4, lines 20-28; Col. 12, lines 10-22; Col. 23, lines 45-60).

Allowable Subject Matter

16. Claims 8-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter:

The prior art taken singly or in combination do not teach or suggest an image processing device for creating drawing data to be used for forming an image while scanning in a main scanning direction, the image processing device comprising graphic pattern determination means for holding the drawing command when the graphic width determination means determines that the width of the corresponding graphic pattern is less than or equal to the first reference value, and, determining, when the graphic pattern determination means holds a plurality of drawing commands, whether or not the graphic patterns indicated by the plurality of drawing commands constitute an array pattern, in which the corresponding graphic patterns are arranged consecutively in the main scanning direction; drawing data generation means for generating, based on the one or more secondary drawing command, drawing data to be used for forming the one or more secondary graphic pattern while scanning in the main scanning direction, wherein when the graphic pattern determination means determines that the plurality of graphic patterns indicated by the plurality of drawing commands fail to constitute an array pattern, the command

conversion means fails to convert the plurality of drawing commands, and further comprising a **main storage device having an intermediate drawing command storage area and a drawing data storage area**, the intermediate drawing command storage area being for storing the secondary drawing command that is produced by the command conversion means when the command conversion means converts the drawing commands into the secondary drawing command, and the drawing command when the command conversion means fails to convert the drawing command, the drawing data storage area being for storing the drawing data produced by the drawing data generation means, as recited in Claim 8. Claims 9-19 depend from Claim 8, and therefore also contain allowable subject matter.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 571-272-7785. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JH


ULKA CHAUHAN
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